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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,403	09/29/2005	Goro Shiraishi	S1459.70086US00	4461

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EXAMINER	
MILLIKIN, ANDREW R	

ART UNIT	PAPER NUMBER
2832	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,403	SHIRAISHI ET AL.	
	Examiner	Art Unit	
	ANDREW R. MILLIKIN	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4,6-10,12-14 and 16-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4,6-10,12-14 and 16-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 2-4, 6-7, 12-14, & 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (U.S. Patent No. 5,614,687, hereafter '687) in view of Herberger et al. (U.S. Patent No. 6,518,492, hereafter '492).

Claims 2 & 12: '687 teaches a tempo analyzing apparatus comprising: a peak detecting means for detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of an input sound signal; a time interval detecting means for detecting a time interval between peak positions detected

by the peak detecting means in a predetermined unit-time interval; and an identifying means for identifying a tempo of sound to be reproduced with the sound signal on a basis of a frequently occurring one of the time intervals detected by the time interval detecting means (see abstract). '687 also teaches an image display device (10, 12) and a display controlling means (5, 9, 10) for causing an image to be displayed on the image display device, the image corresponding to the tempo identified by the identifying means.

'687 does not explicitly teach an interval frequency detecting means for identifying a frequently occurring one of the time intervals detected by the time interval detecting means. However, '492 teaches that it is preferable to obtain a plurality of BPM estimates so that the best one can be chosen (col. 8, lines 36-38). '492 also teaches that using an interval frequency detecting means for identifying frequently occurring time intervals in a musical piece allows the most frequently occurring time interval to be identified as the BPM for the musical work (col. 8, lines 8-24; Figs. 1 & 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an interval frequency detecting means for identifying frequently occurring time intervals in musical pieces such as the one presented in '492 with the device described in '687 in order to allow the most frequently occurring time interval to be identified as the BPM for the musical work. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used multiple BPM determining methods (such as those presented in '492 and '687) in order to obtain a plurality of BPM estimates so that the best one could be chosen.

'492 teaches an identifying means that accumulates a frequency of occurrence of each time interval between beats (which '492 identifies as the positions of peaks in col. 6, lines 25-30) detected in a plurality of unit-time intervals and identifying the tempo of the sound to be reproduced with the sound signal on the basis of a maximum one among all the accumulated frequencies of time interval occurrence (cols. 7-8 & Figs. 1-5). At the very least, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried using the BPM determining technique of '492 (finding a most frequently occurring time interval between beats) with the device described in '687 since it is a known suitable technique for determining BPM.

'492 teaches that identifying the tempo of the sound on the basis of a maximum one among all the accumulated frequencies of time interval occurrence need not necessarily rely upon any autocorrelation calculation or beat structure analysis (see paragraph bridging cols. 7 & 8; see also Figs. 1 & 5).

Claims 2, 6, 7, 16, & 17: '687 teaches the apparatus according to claims 1, 3, & 4, further comprising: a volume calculating means for calculating a volume of the input sound signal; and a threshold setting means for setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means (column 3, lines 23-29).

Claims 3-4 & 13-14: '687 teaches the apparatus according to claim 1, further comprising: a frequency band dividing means for dividing an input signal into a plurality of frequency bands ('687 divides the input sound signal into three bands: a lower stopped band; a passed band; and a higher stopped band) (column 3, lines 14-17), and

the peak detecting means detecting the peak positions for each of at least one or more ones of the plurality of frequency bands divided by the frequency band dividing means; the time interval detecting means detecting a time interval between peak positions detected for each of at least one or more frequency bands by the peak detecting means; and the identifying means identifying the tempo of sound to be reproduced on the basis of the frequently occurring one of the time intervals detected for each of at least one or more frequency bands (column 3, lines 58-67 & column 4, lines 1-4).

4. Claims 8, 10, 18, & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over '687 & '492, as applied to claim 1 above, in view of Yamauchi et al. (U.S. Patent No. 6,140,565, hereafter '565).

Claims 8, 10, 18, & 20: '687 teaches the method according to claim 12, but does not teach selectively reading video data from a plurality of video data stored in a storage means on the basis of the identified tempo; and displaying an image corresponding to the read video data on an image display device. '565 teaches selectively reading video data from a plurality of video data stored in a storage means on the basis of the identified tempo (column 13, lines 5-26); and displaying an image corresponding to the read video data on an image display device (column 16, lines 20-21; see Fig. 1, top right) in order to provide a method for visually representing a music system (column 1, lines 65-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of visualizing music

of '565 with the method of determining tempo of '687 in order to have provided a visual representation of the music system.

Claims 10, 20: '565 teaches selectively reading a plurality of video data stored in a storage means on the basis of calculated sound volume (column 3, lines 20-28).

5. Claims 9 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over '687, '492, & '565, as applied to claims 8 & 18 above, and further in view of Kellock et al. (U.S. Patent Application Publication 2004/0027369, hereafter '369).
'565 teaches the method according to claim 18, but doesn't teach the step of controlling size, moving speed and moving pattern of the image to be displayed on the image display device. '369 teaches that controlling size, moving speed and moving pattern of an image to be displayed on an image display device [0051, 0086] helps allow for automated editing of digital video [0008]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have controlled the size, moving speed, and moving pattern of the visual representation of '565 in order to have allowed for better automated editing of the digital video output.

Response to Arguments

6. Applicant's arguments filed 16 December 2009 have been fully considered but they are not persuasive.

7. Applicant argues that '492 teaches away from not using auto-correlation calculations or beat structure analysis. Examiner notes that '492 nonetheless teaches a method of identifying a tempo of a sound to be reproduced which is not based on auto-correlation calculations or beat structure analysis (col. 7-8). Using such a method would have had predictable results and would have been used in circumstances and applications where only a "rough approximation" was required for tempo.

8. Applicant further argues that '492 does not teach a display controlling means for causing an image corresponding to a tempo so identified to be displayed on an image display device. Examiner disagrees. See, e.g., claim 3. Applicant further argues that Herberger clearly indicates that an image corresponding to a tempo identified not using auto-correlation or beat structure analysis is unsuitable for display on an image display device. Examiner disagrees and notes that even if the histogram generation results in a "rough approximation," the rough approximation may still be displayed or illustrated if only a rough approximation is necessary.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW R. MILLIKIN whose telephone number is (571)270-1265. The examiner can normally be reached on M-R 7:30-5 and 7:30-4 Alternating Fridays (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew R. Millikin/
Examiner, Art Unit 2832

/Jeffrey Donels/
Primary Examiner, Art Unit 2832